

REMARKS/ARGUMENTS

These remarks are made in response to the Office Action of May 2, 2007 (Office Action). As this response is timely filed within the 3-month shortened statutory period, no fee is believed due. However, the Examiner is expressly authorized to charge any deficiencies and credit any overpayments to Deposit Account No. 50-0951.

In the Office Action, Claim 30 was rejected under 35 U.S.C. § 101 as being directed to non-statutory matter. In response to this rejection, Claim 30 has been amended to recite a system, but with various means for performing the various procedural aspects defined therein. Such a claim comprises statutory matter, and Applicants respectfully request withdrawal of the rejection.

Claims 1-30 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In response to this rejection, Applicants have replaced the phrase "data-reaping agent" with the supported phrase "data-reaping object." Accordingly, the claims are no longer indefinite, and Applicants respectfully request withdrawal of the rejection.

Claim 24 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In response to this rejection, Applicants have corrected Claim 24 to recite a "machine-readable storage" as recited in Claim 17. Accordingly, Claims 24 is no longer indefinite, and Applicants respectfully request withdrawal of the rejection.

Claim 30 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In response to this rejection, Claim 30 has been amended to recited a system only with various means for performing the various steps define therein. Accordingly, Claims 30 is no longer indefinite, and Applicants respectfully request withdrawal of the rejection.

Claims 1, 3-11, 17, 19-27, and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,122,664 to Boukobza, *et al.* (hereinafter Boukobza) in view of U.S. Patent 6,175,732 to McDaniel, *et al.* (hereinafter McDaniel) and further in

view of U.S. Patent 6,799,198 to Huboi, *et al.* (hereinafter Huboi). Claims 2 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Boukobza in view of McDaniel, further in view of Huboi and U.S. Published Patent Application No. 2002/0087949 to Golender, *et al.* (hereinafter Golender). Claims 12-16, 28, and 29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Boukobza in view of McDaniel and further in view of Huboi and U.S. Patent 6,681,243 to Putzolu, *et al.* (hereinafter Putzolu).

Amendments to the Claims

As of this Amendment, independent claims 1, 14, 17, and 30 have been amended to emphasize certain aspects of the claims. In particular, claims 1, 14, 17, and 30 have been amended to emphasize that a ghost agent associates with a host, and in response to a host moving from a first grid to a second grid, the ghost agent also moves from a first grid to a second grid, copying the actions of the associated host, similar to the limitations of Claims 12 and 28. Dependent Claims 10, 13, 26, and 29 have also been amended to maintain consistency among the claims. Claims 12 and 28 have been cancelled. No new subject matter has been added by this amendment.

Aspects of Applicants' Invention

Prior to discussing the cited art, it may be useful to reiterate certain aspects of Applicants' claimed invention, including the functioning of the ghost software agent as the host software operates in the various grids within the grid environment. The claimed invention provides systems and methods for supporting an application within a grid environment. For example, a method, as typified in Claim 1, can include identifying a host operating in a grid of a grid environment. The ghost agent within the same grid can then be associated with the host, where the ghost agent is configured to replicate and record the actions of the host. An action to support the application can be then based on the actions recorded by the ghost agent. Finally, after the host moves to another grid in

the grid environment, the ghost agent can be configured to automatically move to the other grid, thus following the host in order to replicate and record actions of the host in other grids.

The Claims Define Over the Cited References

As previously stated, independent claims were rejected as being unpatentable over Boukobza in view of McDaniel, Huboi. Dependent Claims 12 and 28 were rejected in further view of Putzolu. Boukobza discloses a process for monitoring a plurality of object types of a plurality of nodes using a management node in an information system. Boukobza further discloses monitoring the various nodes by using the management node to install a single autonomous agent in a node to be monitored, where the autonomous agent can be configured to monitor software objects, conditions, parameters, and actions in the particular node in which the agent is installed. (See, e.g., Abstract, Col. 2, Lines 21-38) The management node can then retrieve data collected by the various autonomous agents to perform further analysis of the performance of each node. (See, e.g., Col. 6, Lines 30-34) Applicants respectfully submit that the claims as Amended, define over the combination of Boukobza, Putzolu, and any other reference of record.

In particular, Boukobza fails to disclose or suggest a ghost agent being associated with a host software object. The Office Action asserts that the ghost agent, as recited in the claims, is equivalent to the autonomous agent of Boukobza. Applicants respectfully disagree. ***Boukobza discloses a single autonomous agent being associated with a single node, grid, or device, and not associated a host software object traversing the grid environment.*** (See, e.g., Col. 2, lines 20-37.) The autonomous agent of Boukobza is provided to allow decentralized control of individual nodes, allowing each node to continuously and independently respond to changes in system performance and resources without having to regularly rely on a central system or external resources. (See, e.g., Col.

2, lines 39-55). Therefore, because agents in Boukobza are limited to a single node, they cannot provide debugging for host software objects as they traverse a grid environment.

In contrast, the claimed invention provides an individual ghost agent that associates with an individual host software object, not with a node, grid, or device. Furthermore this ghost software object moves with the associated host software object and records the actions of the associated host as the host traverses the grid environment. Thus, potentially, a single ghost software object in the claimed invention could record every action of an associated host software object, regardless of which node or grid the actions of the associated host software object occur in. Such a feature is not disclosed in McDaniel, Huboi, or Putzolu.

Furthermore, the Office Action, on page 15, it is acknowledged that Boukobza, McDaniel, and Huboi do not explicitly disclose the step of moving an associated ghost software object from a first grid to a second grid in response to moving of the host software object from the first grid to the second grid. However, the Office Action asserts that such a capability is disclosed in Putzolu. Applicants respectfully disagree.

Putzolu discloses a method of providing agents that move among network devices to manage the operation of the devices in the network. However, Putzolu fails to disclose associating with and copying the movement of another software object, as in the amended claims. *Putzolu instead discloses that agents move in response to demands on device resources in order to travel to the appropriate network device and make any necessary adjustments to improve network performance, not for debugging host software objects.* (See, e.g., col. 11, lines 49-53). In Putzolu, agents are not associated with software objects. At most, such agents are associated with a node, as the agent can be configured to reside at a particular node according to a user command. (See, e.g., col. 5, lines 9-19). However, nowhere does Putzolu disclose that such agents can be associated with another software object or that they would follow another software object automatically. In

Putzolu, movement is instead based on responding to commands or problems in the network. For example, an agent in Putzolu would not travel along with software objects arriving at a node the agent is currently at. Instead, the agent of Putzolu would travel through the grid independently, attempting to ascertain the source of software objects arriving at the node and to make any adjustments necessary to improve performance. However, such movement is independent of the subsequent destination of a software object arriving at the original node. As such, the agent of Putzolu cannot replicate and record actions for debugging purposes or otherwise, as agents and software objects do not travel together.

In contrast, the ghost agent of the claimed invention would associate with a specific host object and follow the object as it leaves the node and travels to other nodes, in order to record their actions for determining a proper response.

Therefore, Applicants respectfully submit that combining the method of Boukobza to include the agent of Putzolu would not teach or suggest the claimed invention. As previously stated, Boukobza is directed to continuously monitoring and evaluating individual machine or node performance using one or more autonomous agents. Putzolu is directed to managing performance of network nodes by using agents that can travel from node to node and make needed adjustments. However, neither Putzolu nor Boukobza discloses that the agents would be bound to software objects. Allowing the autonomous agent to move from node to node, as suggested in Putzolu, only allows the agent to travel among nodes and make adjustments to devices based on current device and network conditions. However, such a combination still does not provide for replicating and recording actions of host software objects traversing the grid environment in order to debug such software objects, as in the claimed invention.

Accordingly, Boukobza and Putzola, alone or in combination with any other reference of record, fail to teach, suggest, or render obvious every feature recited in

independent Claims 1, 14, 17, and 30 as amended. Applicants respectfully submit, therefore, that amended independent Claims 1, 14, 17, and 30 each define over the prior art. Applicants further respectfully assert that whereas the remaining dependent claims each depend from one of independent claims while reciting additional features, the remaining dependent claims likewise define over the prior art. Therefore, Applicants respectfully submit that the dependent claims are patentable on their own merit and are in a form for allowance.

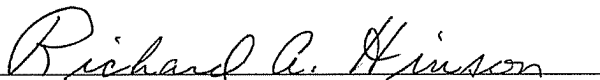
CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

AKERMAN SENTERFITT

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